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LOUISIANA WILD LIFE AND FISHERIES COMMISSION

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Conservation Pledge

I give my pledge as an American to save and faithfully to defend from waste the natural resources of my country—its soil and minerals, its forests, waters and wildlife

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When it comes to having marlin in Louisiana's coastal waters, The Pelican State is lucky. Marlin rank at the top of the big game fisherman's list. Of the three species found in North American waters, two are found in Louisiana waters. Of these, the blue marlin shown on the cover is the best known and most highly sought. In weight, it ranges up to 1000 pounds. The world record listed by the International Game Fish Association is 780½ pounds. The record for Louisiana is 463½ pounds, established during the 1958 Grand Isle Tarpon Rodeo.

(Art by Sidney Gauthreaux)

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LOUISIANA WILD LIFE AND FISHERIES COMMISSION

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EDITORIAL

WHEN IT COMES to fishing, Louisiana is well recognized as one of the foremost states for both freshwater and saltwater anglers. This is particularly true when one considers the variety of fish species present in the state and along its coast.

Throughout Louisiana, there is hardly a bayou, river, or lake, that does not offer excellent fishing for bass, bream, crappie (also known as sac-a-lait or white perch), catfish and other species.

The fringe of coastal lakes, bays, and bayous, extending from Texas to Mississippi has offered Louisiana anglers top sport for generations. Favorite species in saltwater have always been speckled trout, white trout, croakers, redfish, drum, flounders, and many other kinds of fish that are game fighters, or downright good on the table.

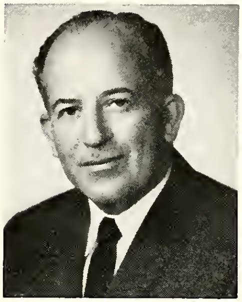
It is quite probable that the term croaker sack had its origin in Louisiana, where anglers fishing on a good day literally filled sacks with the tasty, scrappy bull croakers.

Immediately following World War II, Louisianians began to enjoy new fishing sport. Oil drilling platforms and offshore structures began to attract relatively new species of saltwater game fish.

The pompano serve as a good example of what appeared to be a change in migratory pattern. Plentiful in Florida coastal waters for generations, pompano began moving into Louisiana's coastal waters during the late fall and winter months. At first there was only a trickle; and then there was a virtual flood of these fine sport and food fish. Schools of pompano congregated around the off-shore oil and gas drilling structures. Huge catches of pompano are now made each winter.

Red snappers, while not strangers to the Louisiana coast, also began showing up in tremendous schools of big fish. Around the rigs and flares, fishing for Spanish mackerel and blue fish, became top sport.

Along with these species, and other newcomers, Louisiana anglers discovered barracuda. This was another sign that the offshore structures dotting the Louisiana coast line were attracting more and more fish.



L. D. YOUNG, JR.
Director

While this apparent change in migration patterns developed, skin divers returned from the rigs with reports of tremendous concentrations of fish. They told of fishing ranging in size from big spadefish to jewfish that weighed hundreds of pounds. The record jewfish speared and landed by skin divers now stands at 505 pounds, with even bigger ones having been seen by divers.

Fishermen became fired with even greater angling promise. They read with growing interest the accounts of exploratory work being done by the U.S. Fish and Wildlife Service aboard the "Oregon"; and subsequent work done by the Louisiana Wild Life and Fisheries Commission aboard its vessel "Albacore".

Those with foresight realized that Louisiana's fishing frontier was being pushed farther and farther into the tempting waters of the Gulf of Mexico. Commercial trawlers had seen sailfish on repeated occasions. The exploratory work done aboard the "Oregon" and the "Albacore" proved beyond doubt that Louisiana's offshore waters held promise of becoming one of the finest deep water, big game fishing areas in the country.

Only a decade ago, the prospect of catching sailfish consistently in Louisiana waters was the subject of humor in certain circles. However, the smiles on the faces of people watching big game fishermen cast off and move out from the dock, soon changed from mingled humor and ridicule to outright amazement.

In the decade that has passed, sailfish have become commonplace. Today, big game fishermen have their billed caps set upon bigger and bigger fish which are in gulf waters. In this issue we hope to familiarize all of our readers with the almost untapped big game fishing that Louisiana has to offer. ✠

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Decade Brings Big Game Fishing

McFadden Duffy

TEN YEARS AGO this year, the United States Fish and Wildlife Service assigned the exploratory vessel *Oregon* to the Gulf of Mexico. Assignment of the specially equipped vessel to probe the Gulf of Mexico and determine the species of fish present went practically unnoticed by sport fishermen.

At that time, oil and gas exploration had brought about a new type of salt water fishing. The drilling rigs and platforms had attracted exciting numbers of new fish. Rig fishing became popular. Fantastic catches of red snappers, blue fish, big white trout, cobia, Spanish mackerel, sleek king mackerel, pompano, and a dozen other species that set up housekeeping in season under and around the rigs were made.

The popularity of rig fishing has not waned but increased through the years. Like spiders of steel, standing on many legs the rigs dotted the coastal waters of Louisiana. At first, all of them were within sight of land. At night, the lights on the rigs twinkled like far-near stars in the blackness of the gulf. Fishermen also found a nightly bonanza around the flares where waste gas sent leaping flames high into the sky, attracting fish much as moths are attracted to a flame.

But those spiderlike platforms, costly and complex, were mobile. They spawned new rigs and platforms that seemed to march like a row of spiders toward deeper water, new oil and gas fields.

Sport fishermen began to look toward the distance. They wondered what the deep blue water beyond the rigs held for them. They wondered about the Gulf of Mexico.

Reports from the *Oregon* began coming in, followed by photographs. The sight of white marlin, blue marlin, tuna, huge sharks, and other fish set the pulses of potential big game anglers jumping. True, the fish were taken on the "long line" which is sometimes called the Japanese line and is best described as a giant trot line. The important thing to budding big game fishermen was that the huge sport fish were present in the gulf.

The operation of the Japanese long line was described in detail by Grits Gresham, former editor of the Louisiana Conservationist, in an article appearing in the January, 1955, issue of the Conservationist (now out of print).

"The long line is little more than an overgrown trot line," Gresham wrote. "The main line, which is the 'long' part of the 'long line', was being fished at a depth of 20 fathoms (120 feet). It was held at this level by a series of floats. From the main line extend the drop lines to which the hooks are tied. These drops are called 'gangions', and are about 25 feet long. The hooks are made in Norway, and are connected to the gangion line by a two-foot cable leader. Ten hooks are called a basket, a term derived from the baskets used by the Japanese to coil the line in. In the case of the *Oregon*, most of these baskets are literally washtubs. The gangions, and hence the hooks, are 72 feet apart.

James Meriwether, shown with the largest blue marlin caught thus far in Louisiana waters on rod and reel. It weighed 463 1/2 pounds.

"Although the *Oregon* had never fished more than 26 baskets before, the new equipment being rigged would bring the total to 50 baskets—500 hooks. Each segment of line designated as a basket was 138 fathoms long; thus, our big trot line was about eight miles long."

Gresham described one set of the line which yielded 15 yellow fin tuna, 2 blue marlin, 1 white marlin, 3 mako sharks, 8 silk sharks, 3 white-tipped sharks, and a few other species.

"The blue marlin were measured," he reported, "taping more than 12 feet long, each—but were too big to be weighed."

There can be little wonder that the reports of the trip Gresham made aboard the *Oregon*, and the reports of other trips conducted by the U.S. Fish and Wildlife Service, stirred the thinking of sport fishermen.

Ten years ago Louisiana Anglers did not dream that a fighting chair, harness, and heavy tackle would become standard equipment for fishing in Gulf waters out of South Pass for big game fish.

Of three sets made by the technicians aboard the *Oregon* and observed by Gresham; there were 45 yellowfin tuna, 2 blue marlin, 13 white marlin, 1 sailfish, and 3 mako sharks. The biggest tuna weighed 180 pounds; the largest blue marlin, about 500 pounds; the biggest white marlin, 85 pounds; and the sailfish, 51 pounds.

Gresham expressed the sporting possibilities in his article in the Conservationist, January, 1955:

"The sport fishermen have good reason for high hopes, also," he wrote. "If it is found that we have these big game fish—marlin, tuna, makos, in fishable quantities, and it certainly looks as though we have, Louisiana may become the center of a new and great sport fishing industry. The bigger of the two blue marlin taken on this trip would have ranked second in the country for 1953, had it been taken on sport tackle. Both would have placed in the first five. Several of our sport boats are already making preparations to go after these big fish, with outriggers, bigger tackle, and the other extras.

The sight of outriggers on fishing boats ten years ago was a rarity. Today Louisiana big game anglers fish aboard boats properly equipped to aid them in taking big game fish far off shore.

"It may take quite a bit of experimenting before they find the combination—before they learn how to take the big fellows on sporting tackle. When they find it, they'll have hit the jackpot.

"The fish are there, and Louisiana has a strategic position. Our Mississippi Delta gives us protective land extending a hundred miles into the gulf. It puts us within 10 miles of 'deep water'—the 100-fathom line. Let's take advantage of nature's gift in this respect. Let's not miss the boat!"

A hefty bull dolphin, considered one of the most beautiful fish that can be taken by big game fishermen in Gulf waters comes to gaff.

After the first thrill of landing big game fish, members of the New Orleans Big Game Fishing Club engaged in a scientific research program in cooperation with the Woods Hole Oceanographic Institute and have tagged more than 150 big game fish and then released them. Herman Prager, left, President of the New Orleans Big Game Fishing Club is shown holding the shaft used in inserting the barbed end of a plastic tag. When recovered, marine biologist will use this information to determine migration patterns, growth rates and best times of the year for catching these fish.

Fast on the heels of the exploratory work done by the U.S. Fish and Wildlife Service, additional research was begun by the Louisiana Wild Life and Fisheries Commission. The *Albacore* continued the search of new and virtually undeveloped fishing waters for both commercial and sport interests.

Each new report of the presence of blue marlin, white marlin, sailfish, tuna, and other big game fish species, hastened the preparations of big game anglers to test their skill, and to open a new fishing area.

The principal problem became evident. Paradoxically, the highly productive big game fishing waters were miles closer to South Pass than fisherman were to the mouth of the river pass which marked the jumping off spot for big game fishing.

There were charts available for fishermen showing where the 100-fathom and the 1000-fathom lines ran. Fishermen also knew where the continental shelf ended and the gulf dropped off to mile-deep water. They knew the location where the big game fish had been taken on the Japanese long line; and they also knew the approximate best months for fishing.

The problem was transportation to the fishing grounds, availability of fishing boats, services of experienced guides and seasoned big game fishing boat captains. With a fruitful new fishing area right at Louisiana's delta doorstep, the problem of fishing by sportsmen became a problem of logistics. Boats, fuel, ice, water, provisions, and a number of other factors had to be overcome.

From all parts of Louisiana came big game fishermen who had the boats and yachts capable of venturing offshore in search of the new glamour fish of the Gulf of Mexico. In some cases, their boats were too large for the sort of fishing they wanted. In others, boats were a trifle too small for solitary ranging about the waters below South Pass.

The first attempts for billfish and tuna were made by small flotillas of boats, all fishing for big game fish within sight of each other but far from sight of land.

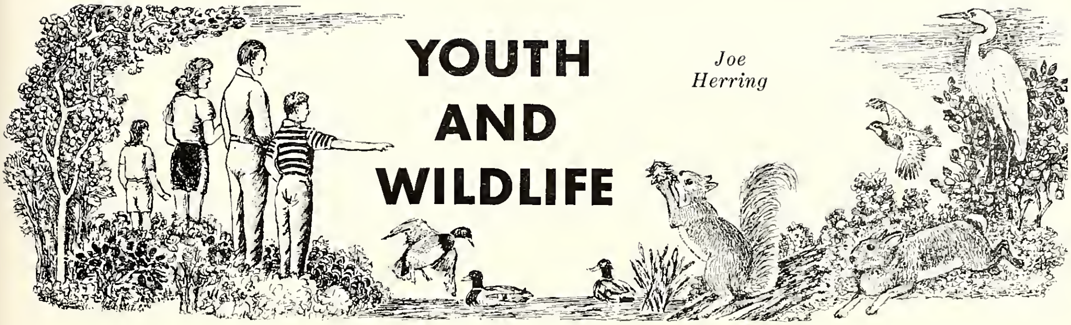
On one of those trips in the early 50's, fishermen broke the white marlin barrier. Sailfish became relatively common and in 1958, the first blue marlin was caught. Several days later, during the Grand Isle Tarpon Rodeo, a second one was landed. It stands as the record for Louisiana as this article is being written.

Since then, countless white marlin, sailfish and an impressive number of blue marlin have been landed, along with tuna and huge dolphin. The potential of big game fishing in Louisiana is great and the state is on the verge of becoming known throughout the world for the big game fishing opportunities it offers.

Harold Rasbotlan, Shreveport, La., is shown standing beside the first blue marlin of the 1962 season, caught in early May. The big marlin weighed 370 pounds and was boated approximately 20 miles off South Pass. It struck a mullet being used for bait and was 93 1/2 pounds under the all time Louisiana record thus far of 463 1/2 pounds set by Jim Meriwether also of Shreveport.

YOUTH AND WILDLIFE

Joe Herring



CLASSROOM FIELD TRIPS

One writer once said "A picture is worth 10,000 words." With this in mind, how many words would a nature field trip be worth to a student?

Many times we neglect to use this simple tool of education, the field trip. Field trips give students first hand information of the natural laws of nature at work.

Field trips may be combined to include many features. An instructor should lead the group discussing plants, animals and ecological conditions and changes of the area to be viewed. Students in turn may use the field trip for observance, collecting biological specimens or photography.

Season of the year is immaterial for field trips in our state. With season features such as the blooming of spring flowers, numerous summer plants, autumn coloration, movement of animals, migration or roosting of birds and the observing of wildlife homes may be studies. One does not have to take field trips to some distant forest or marsh to observe these features. Usually with a school bus and a few minutes drive a class is far enough away from the city to observe wildlife.

While on this trip why not collect. One may start a good collection of plants, rocks or insects on such trips. It is true that the leader or yourself may not know names of all the biological materials collected but they may be brought back to school for identification. Students on one field trip may collect materials that can be worked on in class for weeks.

Some students may wish to take their cameras, well and good. A camera will assist in studying birds, plants, insects, reptiles, amphibians, mammals and combinations of plants and animals. By photographing one area over a period of time students will be able to observe plant succession. Though it may be gradual, on film the student will be able to see the many changes on an area.

Field trips may be conducted to farm ponds or lakes to discuss fish management; rivers to discuss its history, changes, or pollution; wooded areas to discuss deer, squirrel or turkey; marsh areas to discuss and observe fur animals, waterfowl and plants; farmland to observe quail and rabbits.

After a good field trip much time may be spent in class identifying and classifying those materials collected. Materials may be used for science fairs and the beginning of a collection that would prove of value to the student in later years of study.

To derive full benefits from the trip, classroom programs and exhibits should be prepared from field trip materials. The leader may show slides of various types of plants and animals observed. Students may prepare reports and do library research on their collections.

READ WITH ME

Books are an important part of field trips before, during or after. The book *A Gathering of Shore Birds* by Henry Marion Hall is a very helpful book for field trips along our coastal and marsh areas. It contains brief accounts of 57 species of shore birds which have been known to breed on the North American continent north of the Panama Canal. *A Gathering of Shore Birds* is illustrated with 95 black and white drawings by John Henry Dick. Copies may be purchased from your local book store or The Devin-Adair Company, 23 East 26th Street, New York 10, New York.

FIELD TRIP COOKERY

For group cooking, a light portable stove may be used. For a clean, compact, safe stove with either one or two burners the Bernz-O-Matic propane gas cook stove is excellent. Gas for use in the stove is purchased in cylinders which eliminates spilling, pumping or priming. The same company manufactures a lantern, handy to have should a group be out late. Bernz-O-Matic cook stoves and lanterns may be purchased at your local hardware or from Otto-Bernz Co., Inc., Driving Park and Ramona, Rochester 13, New York.

COMMISSION BOOKLETS AVAILABE

Three reprints in booklet form from articles previously in the *Louisiana Conservationist* are available free upon request to this office. The three reprints available are "How Does a Fish Swim", "Fish Stocking Is That The Answer" and "Official Louisiana Bird—The Brown Pelican". Copies may be obtained by writing Louisiana Wild Life and Fisheries Commission, Capitol Station, Baton Rouge, Louisiana.

WILDLIFE INSTRUCTORS ACTIVITIES

March and April proved to be very busy months for Wildlife Instructors in the school programs. During March, 247 programs were given in schools to 12,886 students. During this same period five T. V. programs were presented. April was another natural resource month with emphasis on wildlife. Two-hundred and seventy-nine programs were given to 15,547 students. Three T. V. programs were presented over KLSE-TV.

Five displays on wildlife were put up for meetings of various types over the state.

A group of Istrouma Junior High students observing life along a stream in Zemurray Game Management Area. As may be noted many of the students have their cameras capturing nature on film. Field trip was conducted by D. H. Roberts, Biologist Supervisor; Tommy Chatham, Biologist; and Vernon Bennett, Wildlife Instructor, Louisiana Wild Life and Fisheries Commission.

What You Should Know - - -

(Part Two)

ABOUT SHARKS

Ednard Waldo

In the first half of this article on sharks, David Kenyon Webster's article was quoted regarding a shark attack. In that part of the article by Webster, he reported "on May 19, 1960 Suzanne Theriot, 16, was attacked by a shark while swimming inside the breaker line 100 feet from the beach six miles southeast of Santa Cruz, California . . .

"Suzanne's sensation at the time of the attack was similar to that of many other victims of shark bite. They often report no "particular pain" or simply a "tingling sensation."

This lack of pain in severe injury is due mostly to the remarkable cutting power and clean efficiency of shark's teeth. They are the most efficient teeth in the world and are among the most interesting. They also differ markedly from other fish teeth.

The most basic difference lies in the fact that sharks' teeth are not firmly rooted in the jawbone, like ours and those of the brook trout, but are set instead in pliable bases in the gums and are connected to the jaws by fibrous tissues instead of bony roots. Sharks' teeth are also greatly modified enlargements of the scales, with the same identical structure, whereas the teeth of the brook trout and other so-called bony, or modern, fish (which sharks antedate in many cases by millions of years), are of an entirely different composition from the bony structure of their scales. In addition several rows of teeth are often functional in sharks, as against one row in other fish. The teeth of many larger species of sharks may also develop and fall away more or less continuously (though some ichthyologists debate this), making it impossible to tell a given individual's age by the condition of its dentition. No such replacement system exists for the brook trout or most other fish.

Sharks' teeth are also the largest in the fish world—up to two or three inches long in white sharks (*Carcharodon carcharias*) and big South Pacific makos (*Isuropsis mako*) and the only ones with serrated edges. Despite popular impressions, serrated teeth are, however, in the minority.

The infinite variety in shape, number, and size of sharks' teeth likewise distinguishes them from those of other fish. The shape of the teeth varies greatly from species to species and even from jaw to jaw. *Hexanchus griseus*, the six-gilled shark (also known as the cow shark, mud shark, bull shark, and bulldog), which ranges all the oceans and the Mediterranean Sea, is a splendid example of dental diversity. Its uppers differ noticeably from its lowers and those in front from those further in. The same is true of the seven-gilled shark (*Notorynchus maculatum*), which is said to be the most primitive of all big sharks, indeed, a living fossil whose teeth almost exactly match those found in rocks 130 million years old.

There are also variations in teeth within families of sharks, as in the hammerhead family Sphyrnidae: Only the great hammerhead (*Sphyrna mokarran*) has teeth with serrated edges; other hammerheads' teeth are smooth.

In addition, the teeth of outwardly similar species may sometimes vary with the locale, due perhaps to variations in diet. Thus certain dogfish that resemble one another as far apart as England, New York, the Crimea, and New Zealand have dissimilar teeth. The separate species can be distinguished only by close examination of their dentures. This is true of many other kinds of sharks.

Although the popular image of a shark's tooth is that of a mature maneater's serrated triangle, there are actually four distinct shapes:

1. Sawtooth triangles,
2. Long, smooth-edged needles,
3. Sharp-edged molars in rows,
4. Flat molars in mosaic patterns.

Each type has many variations, and many sharks' jaws combine several different shapes, as in the six-gilled species mentioned above.

Serrated teeth for cutting and piercing are found only in pelagic species like the great hammerhead, tiger shark (*Galcocerdo cuvier*), great white shark (*Carcharodon carcharias*), and great blue shark (*Prionace glauca*). Just how and why these teeth evolved is one of many mysteries of the sea, but perhaps they were designed to provide increased cutting power for biting through the tougher skin and bones of the larger prey that these species seek. A great blue shark chasing an albacore cannot stop and worry it as a dogfish shakes a lobster, but must snap off a mouthful the instant it is upon it. Triangular teeth with sharp points and serrated edges help to make this possible. Some of them may perhaps be almost three inches long in 30-foot great white sharks, but most measure an inch or less.

The power of these teeth must be seen to be believed. First try to cut a tuna in half with a sharp knife. You will pull and hack at it for several minutes before you finally halve the fish. Then take another tuna the same size and dangle it overboard near a big dusky shark (*Carcharhinus obscurus*). The shark will dart up with its mouth open, project its jaws, snap them together with a slight sideward motion, and bisect in a fraction of a second the three-foot fish at which you hacked and sawed so long and hard. In the same vein, a bystander rammed a 2 x 4 timber into the mouth of a 15-foot great white shark brought alive to the pier at Santa Cruz, California, on July 31, 1959. The shark bit the timber in half.

Saw teeth like these are formidable weapons for attack and defense and are undoubtedly the most efficient teeth in both the fish and animal world. By comparison, a lion's teeth are crude and inefficient. The lion must chew and worry at a steer's carcass to get a mouthful, whereas a tiger shark can skim up on the same carcass in the sea and spoon off a 10-pound tidbit without interrupting its speed. Hide, flesh, and muscle yield to its rows of serrated teeth almost like soft ice cream.

The teeth leave an elliptical incision unique among fishes, and the food is apparently seldom chewed. Instead, its bite and bolt with the result that some remarkably large creatures have been found almost intact in sharks' stomachs. An eight-foot great white shark in California contained a 50-pound seal, several five- and seven-pound rockfish, and the remains of lesser creatures. Two sharks six and seven feet long were once taken from the stomach of another 15½ feet long. A 15-foot white shark swallowed a Newfoundland dog in Australia, while one even larger in the same country years ago reportedly killed and swallowed a full-grown horse. The great white shark's scientific name, incidentally, comes from the Greek word carcharodon, for rough, sharp, or jagged teeth.

The habit of biting and bolting has also led to equally remarkable finds in other species' stomachs. Tiger sharks furnish some good examples. One almost 10 feet long yielded a 6½-foot crocodile off Indonesia, while a 12-foot tiger shark was caught in South Africa in the act of swallowing the seven-foot tail of a thresher shark that it had just killed. The stomach of a 14-foot tiger shark caught at Durban, South Africa, contained the head and forequarters of a crocodile, the hind legs of a sheep, three seagulls, two cans of peas, and a cigarette tin.

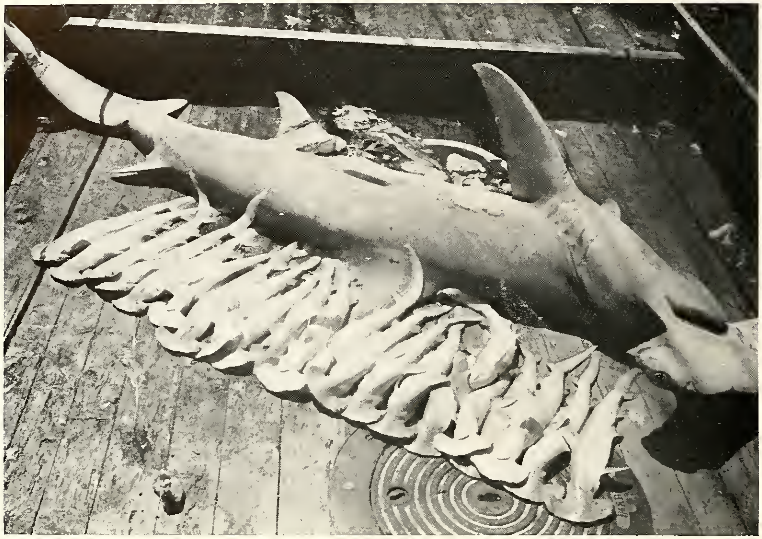
The size and arrangement of these teeth are so efficient and the jaws so powerfully muscled that a 15-foot great hammerhead can remove a man's hand faster than the finest surgical saw, and thanks also to the anesthetizing effect of the salt water, with less immediate pain. Biting through flesh and muscle and simultaneously jerking up its head, the same shark can snap off a man's leg at the thigh. Exceptionally large sharks can take even more: A Malay diver in the South Seas surfaced near his dinghy, gasped, "A very great shark, a very great shark," and died. He had been bitten in half just below the heart. In 1892, a full-dress diver seeking pearl shell in Torres Strait between Australia and New Guinea playfully jabbed a sharp knife into a big shark as it passed by. The shark whirled around and bit him in two.

Sharks have even used their teeth to bite through the hulls of small boats to get at the people on board; in combination with their tails, the teeth have caused a number of fatalities in the tropics. On February 3, 1937, a large shark sank an open launch in Australia, while on December 2, 1936, an 18-foot shark sank an 11-foot dinghy and ate its occupant. Also in Australia, a mako shark sank a small boat and killed one man, and another mako sank another and killed three men. Years ago, a Fiji war canoe with 20 pas-

A small spiny dogfish shark from the Gulf. Many species of sharks are many times smaller than this species. One of the smallest sharks known, Squaliolus, lives only in deep water and apparently never reaches a length much in excess of six inches. (Photo U. S. Fish and Wildlife Service)

sengers was reportedly bitten and smashed to pieces by a band of sharks that killed all 20 warriors the moment they had them in the water. Another school of desperately hungry sharks is said to have demolished a fleet of small canoes in the Ellice Islands by biting off the out-riggers, chewing holes in the hulls, and smashing in the bulwarks. By the time the melee was over, 38 of the 40 people were in the sharks' stomachs.

The teeth of such sharks are still sold in souvenir shops throughout the tropics. They were once employed by Pacific islands' natives to tattoo themselves, shave their heads and jaws, and stud staves and bludgeons as saws and ripping tools. ✛



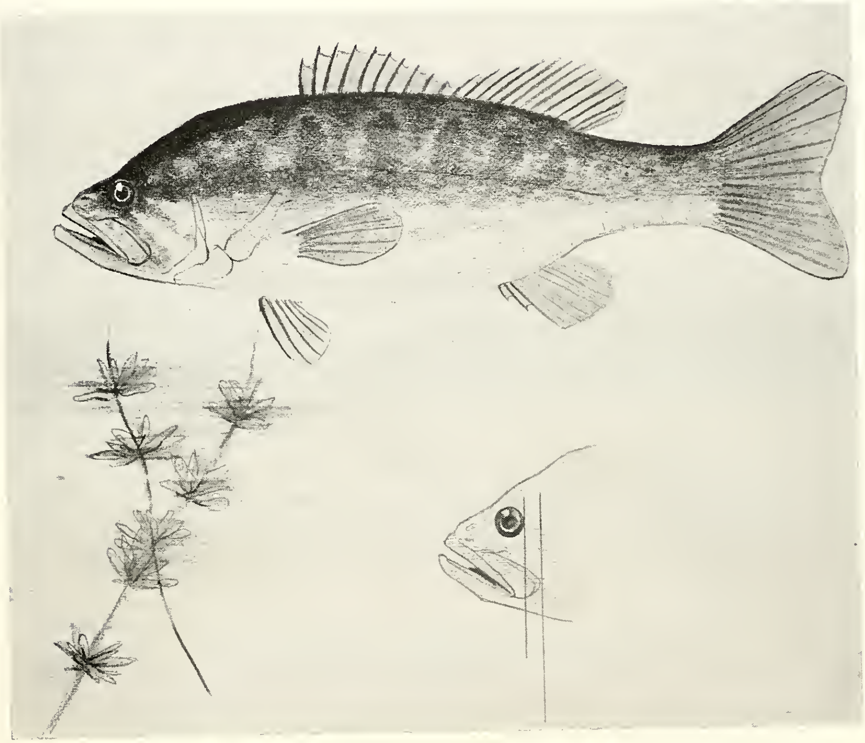
The great hammerhead shark of the Gulf of Mexico, and her litter. It is one of the species that inhabits the shallow waters along the coasts. (Photo U. S. Fish and Wildlife Service)

MAXIMUM SIZES OF COMMON SPECIES OF SHARKS

Species		*Maximum length (measured—U.S. coasts)*	*Maximum length (recorded—world)*	*Traditional maximum size from literature*
Common name	*Scientific name*			
Sixgill shark	*Hexanchus* sp.	15 feet 5 inches		26 feet 5 inches
Sand shark	*Carcharias taurus*	10 feet 5 inches	12 feet 3 inches	15 feet 11 inches
Porbeagle	*Lamna nasus*	10 feet	12 feet	12 feet
Salmon shark	*Lamna ditropis*	8 feet 6 inches	8 feet 6 inches	12 feet
Mako	*Isurus oxyrinchus*	10 feet 6 inches	12 feet	12 feet-13 feet
White shark	*Carcharodon carcharias*	18 feet 2 inches	21 feet	36 feet 6 inches
Basking shark	*Cetorhinus maximus*	32 feet 2 inches	45 feet	40 feet-50 feet
Thresher shark	*Alopias vulpinus*	18 feet	18 feet	20 feet
Nurse shark	*Ginglymostoma cirratum*	9 feet 3 inches		14 feet
Whale shark	*Rhincodon typus*	38 feet	45 feet	45 feet-50 feet
Chain dogfish	*Scyliorhinus retifer*	1 foot 5 inches		2 feet 6 inches
Leopard shark	*Triakis semifasciata*	5 feet		5 feet
Smooth dogfish	*Mustelus canis*	4 feet 9 inches		5 feet
Tiger shark	*Galcocerdo cuvieri*	13 feet 10 inches	18 feet	30 feet
Soupfin shark	*Galeorhinus zyopterus*	6 feet 5 inches	6 feet 5 inches	6 feet 5 inches
Blue shark	*Prionace glauca*	11 feet	12 feet 7 inches	25 feet
Bull shark	*Carcharhinus leucas*	9 feet 10 inches		10 feet
Whitetip shark	*Pterolamiops longimanus*	11 feet 6 inches		12 feet
Sandbar shark	*Eulamia milberti*	7 feet 8 inches		8 feet
Dusky shark	*Eulamia obscurus*	11 feet 11 inches		15 feet
Bonnethead	*Sphyrna tiburo*	3 feet 7 inches		6 feet
Great hammerhead	*Sphyrna mokarran*	18 feet 4 inches		15 feet
Spiny dogfish	*Squalus acanthias*	5 feet 3 inches		5 feet
Green dogfish	*Etmopterus vircns*	0 feet 11 inches		
Midwater dogfish	*Squaliolus* sp.	0 feet 7 inches		
Greenland shark	*Somniosus microcephalus*	16 feet 6 inches	21 feet	24 feet
Sawshark	*Pristiophorus schroedcri*	2 feet 10 inches		
Angel shark	*Squatina dumerili*	4 feet 5 inches		

Most, or all, of the maximum recorded sizes contained in the above table refer to female sharks, and indeed, the females of all shark species studied for this attribute average somewhat longer with the average weight appreciably greater than that of males.

Louisiana Wildlife



LARGE-MOUTH BASS

Micropterus salmoides

Distinguished from the Small-mouth Bass by having the mouth extend beyond the eye line. The color consists chiefly of a more or less regular longitudinal dark stripe and a small but distinct caudal spot. The Large-mouth Bass is most abundant in weedy, mud-bottomed lakes and ponds, sluggish streams, backwaters, and swamps. The size of the bass depends largely on the waters it inhabits. The food consists of water fleas, insects, and small fish. Large-mouth Bass will take spinners, plugs, live minnows, and worms. The fish nests most commonly during the warm months.

Scrapbook

Sidney A. Gauthreaux, Jr.

Concentrations of migratory waterfowl such as this photograph depicts were seen during the last hunting season. In spite of the presence of millions of ducks and geese, Louisiana was granted the shortest season and most curtailed bag limit on ducks in the history of waterfowling. This restrictive season imposed by the U. S. Fish and Wildlife Service was protested by the Louisiana Wild Life and Fisheries Commission. Below is a condensed outline of the Louisiana Wild Life and Fisheries Commission's recommendations for waterfowl seasons for 1962-63.

Commission's Recommendations For 1962-63 Waterfowl Season

THE LOUISIANA WILD LIFE and Fisheries Commission has submitted a thoroughly documented recommendation to the U.S. Fish and Wildlife Service for the 1962 waterfowl season in the Mississippi Flyway.

Adopted by the Commission at its April 24 open meeting, the proposal requested not less than a 50-day season with not less than a daily bag limit of four ducks; and a possession limit of not less than eight ducks.

The recommendation submitted by the Commission to the U.S. Fish and Wildlife Service suggested to the Service that the general open season on ducks be allocated in the Mississippi Flyway based upon those species enjoying a favorable population status.

A provision contained in the recommendation was that, if deemed absolutely necessary by the U.S. Department of the Interior, special regulation be applied to the mallard where the number of days may be reduced to less than 50 and the daily bag limit to less than four.

In setting forth the provision for mallards, it was stressed by the Commission that its research and findings did not indicate a closed season on mallards can in any way be justified.

The broad but completely documented proposal suggested that special regulations be applied, if necessary, to control the kill on endangered and other species as has been done in the past.

The Commission proposal recommended also that a regular daily bag of four scaup, with a possession limit of eight, be granted as a bonus in that area of Louisiana that lies south of U.S. Highway 190.

The Commission's recommendation on geese was that the daily bag limits and season lengths on blue, snow and white-fronted geese be the same as in 1961, but that the framework on geese be extended to January 15, 1963.

The proposal expressed cognizance of the fact that there was generally poor production of all geese in 1961, but noted that in view of the high 1960 population of blue and snow geese and the light harvest on these geese; there seems little need for any reduction in the daily bag or season length for those two species.

In the letter of transmittal for the recommendation and supporting charts covering breeding grounds, population counts, kill reports and other management statistics; it was pointed out that Louisiana's opposition to the 1961 regulations was "based upon the belief that the past hunting season did not make the best possible use of the available waterfowl resource; and that the continued curtailment of hunting opportunity can only lead to the loss of hunter interest and the subsequent loss of the public support needed for all waterfowl programs—whether they be research, management, development or acquisition."

The waterfowl recommendations listed above were made after a careful review of the waterfowl situation in Louisiana and the Mississippi Flyway.

In support of its recommendations, the Commission called attention to the fact that the 1961 regulations governing the take of waterfowl, as established by the Department of the Interior, were the most restrictive ever in terms of season length and bag limits in the Mississippi Flyway.

As a result of the 19½-day season with a daily bag limit of three ducks and a possession limit of six ducks; one immediate fact became evident. That was a decline in hunter interest in Louisiana. This was substantiated by duck stamp sales in the state in 1961 compared to earlier years. The decline in interest was not confined to Louisiana since duck stamp sales in the original 48 states were reported to be 22 per cent lower this year than last.

The Commission expressed its understanding that these severe restrictions on the duck hunter were established by the Department of the Interior primarily because of the reported reduction in size of the continental mallard flock—the most important species of duck in the Mississippi Flyway in terms of numbers and widespread distibution.

This reduction of the mallard population occured during a period of progressive drought on the northern prairie breeding grounds. For two other species, canvasback and redhead, reduced populations led to a complete closure of the season.

Yet, research revealed that during this same period of low mallard populations, some species populations were as high as any ever recorded in the Mississippi Flyway. Mid-winter inventories have shown a continuing increase during recent years for all puddle ducks wintering in the Mississippi Flyway except the mallard.

The Commission called attention to the fact that the severe restrictions in regulations have resulted in considerable discontent among hunters of the Mississippi Flyway; but cited that more important than discontent among hunters was uneven and inefficient use of the waterfowl resource. This is obvious in part because the annual waterfowl regulations are based almost entirely on the condition of the mallard population.

In calling attention to the probable results of present waterfowl regulations procedures, the Commission warned that the decline in hunter interest should be of primary concern to every conservation agency in the United States and Canada. It maintained that all agencies must depend upon public support if their management efforts are to be successful. It noted that some agencies are financially dependent on the number of licensed hunters for their management programs.

The Commission's recommendations for waterfowl hunting seasons contained the expressed fear that loss of hunter interest in Louisiana and in other states would result in a loss of high quality waterfowl habitat presently sustained and managed by private individuals and hunting clubs; an accelerated loss of waterfowl habitat to other recreational opportunities and industrial and other uses including navigation and flood control; and diversion of state funds and research and management personnel to other wildlife species that provide greater opportunity for public use.

The Commission further stated that closure of waterfowl season in the coming fall of 1962 would be a grievous error and could eventually lead to the end of public waterfowl hunting.

In examining alternate approaches to closure of the season or excessive restrictions, the Commission submitted to the U.S. Fish and Wildlife Service that "no conservationist will suggest that hunting be continued until the resource is damaged beyond repair or destroyed." It should be fully recognized, however, that continued decline in hunter interest and the subsequent ills resulting from this loss of interest can have the same results. The Commission made plain its contention, in fact, that permanent damage through habitat loss will be a sure result of the present federal management policies which relate to the allocation of hunting opportunity.

Several thousand man-hours of research, fact-finding and evaluation, computation of statistics, preparation of graphs, and other activities went into compilation of the Commission's recommendations for management as well as utilization of the waterfowl resource.

Copies of the recommendations, with supporting data, were widely distributed to conservation agencies and members of Congress. ✢

SHRIMP FLEET BLESSING

(Photo Story by Jack Britt)

ONE OF THE MOST colorful ceremonies in Louisiana is the blessing of a shrimp fleet. In Louisiana this year, the deep rooted religious custom focuses attention as never before in recent years the importance of a safe and productive year for those people engaged in the shrimp fishing industry.

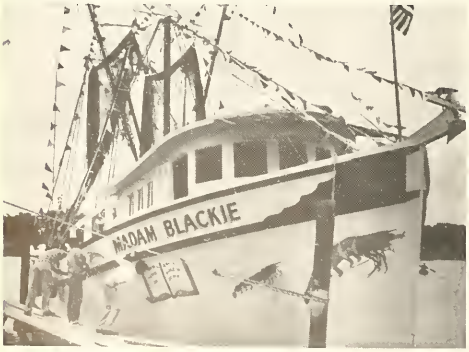
Throughout Louisiana, as the shrimp fleets are blessed at a number of home ports, people in the coastal communities are filled with hope and encouragement. The prospects are good for a normal or better than normal shrimping season. Time alone will tell; but as they enter the last part of the two-month season for trawling in inside waters, there is ample reason to believe that they have started upon the road to economic recovery. Through the Grace of God and by their sweat and toil, the total yield of shrimp by the end of the year may be sufficient for them to look back upon 1962 with elation and thanksgiving. For these hardy people who spend so much of their time away from their homes; trawling first the inside waters, venturing far into the Gulf of Mexico, and again into inside waters, the Church is a mighty bulwark of spiritual strength as they carry on the occupation which has been handed down from father to son for generations.

Weeks and weeks of preparation go into preparation for the blessing of Louisiana's shrimp boats and opening of the trawling season. This boat is shown in dry dock where it is receiving Repairs and being painted for the season ahead.

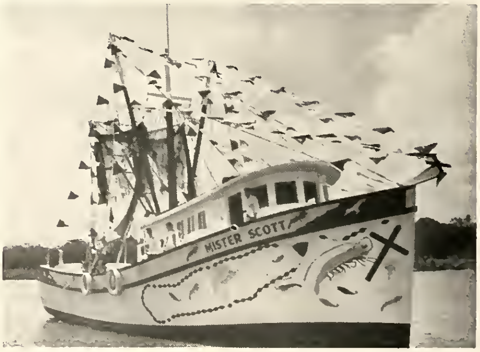
Trawls are carefully mended and all rigging is checked in readiness for the start of trawling. Weathered hands, burned permanently bronze by brassy suns at sea, carefully check each line and pulley as preparations are made for a long season.

Decorating the shrimp boats in preparation for the solemn blessing of the shrimp fleet is a family affair. Children and parents alike exercise their imagination in fashioning decorations that symbolize the source of their livelihood.

On the morning of the day of the fleet blessing, final decorative touches are added to the craft. Every member of the family, both old and young, assists in putting on the final touches that give an air of restrained festivity to the ceremony.



In many cases, the decoration depicts both the industrial and religious feelings of the hardy French-speaking shrimp fishermen. Here, the trawler's bow is decorated with glittering shrimp and a member of the family is shown affixing a replica of an open Bible.



With banners fluttering from the rigging and the hull decorated with appropriate, hand-fashioned symbols that reflect the religious and festive spirit of the family owning the boat, a spruced-up trawler makes its way to the assembly place.

COLORFUL LOUISIANA CEREMONY

Prior to the actual ceremonies connected with the blessing of a fleet, there are many things which must be done. There is an air of festive joy as the shrimp fishermen go about the task of overhauling and reconditioning their boats and nets.

All members of the family participate in preparations for the blessing ceremonies. Banners are carefully sewed and designs fashioned. Boats are freshly painted and gaily decorated when they make their way to the site where the blessing will take place.

In years that are good, fair, or poor, they receive the benediction of the Church with bowed heads and hopeful hearts. Under warm suns, with the banners and flags whipping eagerly in a gentle breeze, they bow their heads and listen to the Prayer for Sailors:

"O God, Who brought our fathers through the Red Sea and carried them safely through the deep as they sang the praises of Thy Name, we humbly beseech Thee to guard Thy servants aboard ship, and, having repelled all adversities, bring them to the desired port after a calm voyage. Through our Lord, Jesus Christ, Thy Son, Who livest and reignest with Thee in the unity of the Holy Ghost, world without end. Amen." ✠

Shrimp boats are shown parading toward the final assembly place where the boats and their crews and families will receive the formal blessing of the Church. The sun gleams brightly on the freshly painted hulls and the multi-colored pennants.

Archbishop John P. Cody and other Church dignitaries are shown entering the Church at Grand Caillou, below Houma, to start ceremonies leading up to formal blessing of the shrimp fleet and the many families in that area who have been shrimp fishermen for generations.

As the Church bells ring out in joyful summons, vessels of the shrimp fleet are shown gathering near the wharves less than a hundred yards from the Holy Family Church where Archbishop Cody and Church dignitaries will bestow benediction and blessing upon the shrimp fishermen.

Archbishop John P. Cody is shown leading the shrimp fishermen and their families in repeating the Prayer for Sailors which is the prelude to individual blessing of the shrimp boats as they pass in aquatic parade down the bayou. Father Michael W. Finnegan is shown at left.

Framed through moss-draped oaks that line the banks of the bayou, the parade of gaily decorated shrimp boats is one of the most colorful ceremonies in Louisiana. Those aboard are joyful at the prospect of a good shrimp season and strengthened by the formal blessing of their Church.

Following the parade down the bayou, Archbishop Cody, flanked by dignitaries of the Church, stands on the bow of the "Robert, Jr." and watches the gaily decorated shrimp boats as they pass by en route to their own wharves to anxiously await the opening of the trawling season.

Letters... Questions... Answers... about WILDLIFE *in* LOUISIANA

conducted by Steve Harmon

Dear Editor: Maplewood, La.

Here is a picture of a one pound 11 ounces, 12 1/2 inches, chinquapin bream I caught with a live worm and fly rod, in Lacassine Nat. Wildlife Refuge at Lake Charles on April 29, 1962.

I would appreciate data on weights of other chinquapins that have been caught in the state prior to 1962.

I think the mailing (and editing) of the CONSERVATIONIST is one of the nicest things the state has ever done for fishermen and sportsmen, and it is well liked by all the people I know—but we would like more articles and pictures of our locality (Sabine, Calcasieu Rivers and Southwest Louisiana) which is one of the finest fishing and hunting areas in our state.

You may use this letter and picture in the CONSERVATIONIST if you like.

FRED W. ELLIOTT

That's a whopping size bream, but still on the light side to make the Louisiana record bream list. The record bream caught in Louisiana waters weighed two pounds and eight ounces. Lake Bistineau was the place, Grant Kelly caught it in 1959. Second place weighed two pounds one ounce and third place bream weighed one pound fourteen ounces.

Dear Editor:

James Henry Smart of Pollock, Louisiana (lower left) was awarded the $4,000 Forestry Scholarship by the Woodlands Division of Continental Can Company at Hodge, Louisiana on May 11, 1962 from these six outstanding applicants. They are (front row) left to right: Henry Smart, Pollock; Douglas Brandon, Zwolle, Elton Roy Smith, Jr., Mt. Carmel; (back row) left to right: Eddie Wayne Price, Pollock; Denvor Howard Martin, Calvin; and William Morton, Stanley.

Dear Editor: Lafayette, La.

My friend and I have been having an argument over the Eastern Kingbird. I have seen these birds here all year round and he says they leave each summer. I would appreciate an answer to this.

Please answer me personally. Thank you.

STERLING J. HUBBARD

Your letter concerning the Eastern Kingbird has been referred to my office for reply. Actually, your friend is nearer to being right because the birds leave in the fall and return in the spring rather than staying the whole year.

I know of no published records of the Eastern Kingbird being in the state during the months of December, January and February but they are most abundant during the period of April through September. If you do observe such birds during the middle of the winter, I would suggest that you contact either Dr. M. B. Eyster of the Biology Department at Southwestern or Dr. George Lowery, Jr., of the Zoology Dept. of L.S.U., and give them the information.

CHARLES R. SHAW

Dear Editor: Metairie, La.

I am a Scout Master and an assistant District Commissioner in the Boy Scouts of America, Keystone District, Jefferson Parish, Louisiana. I have just read the article, "Camping in Louisiana" published in the May-June issue of the CONSERVATIONIST.

As the Scout Master of a troop that has had more then fifty days and nights of "camping" in the past three years, I am sure that you fully realize how much we appreciate your plug for camping in Louisiana. I personally feel that the article was both timely and very well presented. And I, as well as other Scouts and Scouters and all of the people of our great state who have a "yen" for the out-of-doors living should like very much to see more of this type publication.

To the uninitiated populace I might point out that there is a year round "training course" on camping and outdoor living available to all who would explore the Scouting program. For the youngsters, both boys and girls, there is the Boy Scouts and the Girl Scouts which these youngsters may join as members and learn the "outdoor skills" that can make camping a pleasure.

To the adults both male and female there is always a need for adult leadership in all scout units, both as committee men and active scout leaders. We here in Keystone are very fortunate in that there is almost a continuous "Training course" under the capable leadership of "Wood Badgers" open to all adults who would avail themselves of this service as members of a (boy) Scout Unit. As an example of the benefits, members are trained in such skills as selecting camp sites, types of camps, (over night or long term) personal first aid, clothing and equipment, fires and firebuilding, compass and map reading, cooking and conservation, just to mention a few. It may be well to note that most scouts can fashion an adequate cooking "stove" from a discarded tin can ranging in size from the individual size (no. ten can.) to the patrol size (five gallon size).

We, as members of the Boy Scouts of America and the honor campers "Order of the Arrow Brotherhood" wish to thank you sincerely for this article and to extend an invitation to one and all to increase their enjoyment of "camping" and "out-of-doors living" by learning to "Be Prepared" through the Scouting program.

JOHN W. EVANS S/M A/D/C

Dear Editor: Shreveport

Enclosed please find photo of R. O. Barney and J. G. Wallace with a 21 lb. gobbler bagged on opening day, April 7, 1962, in Union Parish, La. This was an original wild turkey stock; not a restock.

I called this turkey into range with a homemade box call that I made 45 years ago.

We would appreciate it if you could find space in your LOUISIANA CONSERVATIONIST. Barney and myself are native Louisianians and readers of the CONSERVATIONIST. We are supporters of the great work being done by the Wild Life Commission.

Thanking you in advance for any consideration that you may give this photo. It is not necessary to return the photo.

J. G. WALLACE

Bill Ford, formerly of Natchitoches, now a Lufkin, Texas resident, caught this 53 pound catfish on a trotline while fishing Black Lake near Campti. Bill, an ardent outdoorsman, is a prominent fishling lure manufacturer, in addition to his duties as chief draftsman for a Texas manufacturing firm.

Dear Editor: Roanoke, La.

I would like to take this means of letting you know how much we appreciated Mr. Harry Gates coming to our school with an animal exhibit, films, and talk on Louisiana wildlife conservation. He held the attention of my seventh and eighth grade students for two hours; even then, they were reluctant to quit. His visit has made Louisiana Resources a very interesting subject, and the students are more concerned about the need of conservation. He certainly has a manner that holds the attention of his audience.

MRS. IOTA McMILLAN

Dear Editor: Metairie

On behalf of Boy Scout Troop #173, Metairie, Louisiana, we want to take this opportunity to thank you for your prompt and efficient handling of our recent request for a Wildlife program.

Your Mr. Vincent Pizzolato held this program at our regular March 24th meeting. Although I was unable to attend due to a previous out-of-town appointment, this program was greatly enjoyed by both the Scouts and their adult leaders. Our Scouts have praised this program much more than anything we have had for them until this time.

We feel your organization and we, the Citizens of Louisiana, are fortunate in having a man of Mr. Pizzolato's ability and character working for and with us. We look forward to another interesting program in the near future.

KEITH POND

Dear Editor: Centerville, La.

I have read several issues of your magazine and have enjoyed them very much.

Both my husband and myself have lived in Louisiana all our lives and I have learned more about our state from your magazine than any other source. The recipes on seafood are wonderful. Would you print one for Crayfish Etoufee?

We would like our name added to your mailing list.

MRS. DARRYL J. BELANGER

Representative Robert Angelle
St. Martin Parish
Breaux Bridge, Louisiana

Dear Mr. Angelle:

A reader of the LOUISIANA CONSERVATIONIST has requested a recipe for Crawfish Etoufee and I thought perhaps someone in your family would have one that they would permit us to publish.

Should you have such a recipe and would grant us the right to publish, please send it to me.

Thanks.

Sincerely yours,
STEVE HARMON, Chief
Education and Publicity Division

Dear Editor: Lake Charles

This is to let you know how much our class of Junior Deputies enjoyed your talk on game laws and conservation. We have heard many favorable comments regarding your speech as we have in the past.

Our next semester will start in September and we hope that we will be able to count on you to again speak on game laws and conservation.

Again our sincere thanks and if we can be of any assistance, please let us know.

W. C. JOHNSON

Turkey Season Results

"Best in Years"

LOUISIANA'S WILD TURKEY population shows definite signs of being on the increase. This was revealed by John D. Newsom, chief of the fish and game division of the Louisiana Wild Life and Fisheries Commission, following preliminary tabulation of bag results reported after the nine-day spring season on gobblers.

Hunter success was better than it has been in years, and turkey hunters reported seeing more hen turkeys than ever before. This can be interpreted as a good sign that wild turkey hunting in 1963 will surpass the fine results reported in 1962.

Newsom pointed out that roughly 20 per cent of the known kill in all, or parts, of 14 parishes was made in the Chicago Mill Game Management Area. There were 38 gobblers known to have been killed by hunters in the management area in 1962, compared to 27 during a similar hunting period in 1961.

The nine-day season extended from April 7 through April 15, with hunting of turkeys scheduled in Union, Morehouse, Madison, Franklin, Catahoula, Concordia, Tensas, East Feliciana, East Baton Rouge, Livingston, St. Helena, Tangipahoa, Washington and St. Tammany parishes.

The Chicago Mill Game Management Area, located in Madison, Tensas, and Franklin parishes, was open to hunting by permit only. Hunting permits were issued upon request from the Commission's district office in Ferriday. That permit was valid each day during the wild turkey hunting season.

Newsom called attention to the fact that only small parts of Catahoula and Concordia parishes were open to turkey hunting and that no kill was anticipated from those portions because they were included only to facilitate boundaries of hunting areas. +

Gilbert Ray, Clinton, La., is shown headed home with his fine gobbler that was bagged during the last half of the nine-day spring season in Louisiana. The young hunter successfully called up the big gobbler and bagged it with a single shot. Ray hunted in an area not far from Clinton.

Two successful wild turkey hunters pose with their gobblers. Both are from Marion, La., and they bagged their turkeys in Union Parish. Shown, from left to right, are: Tommy Vining and Chuck Fairrington. Vining's gobbler topped the 16-pound mark by a few ounces; and Farrington's Tom turkey was a few ounces over 17 pounds.

A Newellton sportsman, Iley Garr, right, is shown being assisted by W. W. Burnside, also of Newellton, spreading the wings of a 14-pound gobbler that Garr killed near the Tensas River during the spring season. The gobbler shown had a 56-inch wingspread. It couldn't resist Garr's calling.

This 18-pound Tom turkey was bagged by a member of the group hunting from the Norris-Reynolds hunting camp in Tensas Parish during the recent wild turkey hunting season. Shown, left to right, are: A. J. Buquet, Wild Life and Fisheries Commissioner from Houma; Hobson Norris, West Monroe; G. J. Autin, Sr., Houma; Tommy Glover, Houma; and Earl Timberlake, New Orleans. Seated, from left, are Pat Richie, Chatham; and Rubin Henry, West Monroe. The photograph was taken by Jack Womack, Chatham, who was also on the hunt.

Veldon Rodgers, left, Franklin Parish; and Homer E. Lowery of Winnsboro are shown with a 19-pound turkey which Rodgers killed April 11. The gobbler had a 60-inch wingspread and a 10-inch beard. Rodgers made the kill in Franklin Parish just south of the Tensas River Bridge on State Hwy. 4.

A turkey gobbler killed by C. E. "Red" Forrest of Tallulah is shown being checked by Renford T. Williams, right, supervisor of the Chicago Mills Game Management Area. Forrest's turkey weighed 17 pounds, had a 62-inch wingspread; and an 8 1/2-inch beard. He shot the turkey at the Sharkey Hunting Club in Madison Parish on April 10.

Another proud turkey hunter is Johnny Stewart of Transylvania. He bagged this 20-pound gobbler in Madison Parish about the middle of the nine-day wild turkey season. It had a wingspread of 57 inches and an 8 1/2-inch beard. Stewart killed the big gobbler on the Chicago Mills Game Management Area in Madison Parish.

Mr. and Mrs. Troy Holland, Bastrop, La., display a 20-pound wild turkey killed at the opening of the turkey season in Morehouse Parish by Mrs. Holland. This was a repeat performance for Mrs. Holland who killed a 19-pound gobbler in 1961. Her turkey this year had a beard which measured 9 1/2 inches; and a wingspread of slightly more than five feet.

Preliminary Turkey Kill Tabulation 1962

Parish	Known Kill
East Baton Rouge	6
East Feliciana	35
Franklin	13
Livingston	38
Madison	44
Morehouse	11
St. Helena	30
St. Tammany	12
Tangipahoa	10
Tensas	15
Union	10
Washington	15
Present Known Total Kill	239

"WAHOO" Means Fighting Fish

(Part One)

Lyon K. Loomis, M.D.

(Editor's Note: The wahoo is considered one of the hardest battlers of salt water for its size. Some people think of it in terms of a combination king mackerel and barracuda. They range in size from 20 to well over 100 pounds. They are taken in southern waters frequented by sailfish, marlin and tuna. The wahoo is more of a lone wolf than any other species. The wahoo has a wide range, from the waters of Long Island to the Gulf of Mexico and the West Indies, and clear across the Atlantic to Sicily. They are also found on the west coast near California and west to Japan. We are pleased to present the first of a two-part article about this unusual fish that provides such top sport when hooked.)

Lyon K. Loomis

THE WAHOO (ACANTHOCYBIUM SOLANDRI) is found in the warmer portions of the great oceans. Not much scientific work has been done on the life history and it is not known whether or not they belong to a single species.

The wahoo is a top-bracket sport fish. It prefers the waters of deep reefs and the open seas; it hits hard and has been estimated to swim 60 miles per hour.

Although known in this vicinity as wahoo, it has other names in different localities; ono (Hawaii), peto (Bahamas), Queenfish (Caribbean), springer (Brazil). Classifying the fish is difficult, because by possessing finlets, it resembles the family of finlets (scombridae). It also has gill structure similar to billfish, because there are no well defined gill rakers. Some scientists have advanced the theory that the wahoo may be a link between the two groups and have classified it in a family of its own - ACANTHOCYBIDAE.

The wahoo has been taken along the coast of northwest Africa and is known to frequent the eastern part of the equatorial Atlantic. It is fairly common off northern Brazil in the Guiana current; a single capture in the Mediterranean. The Bahamas are favorite spots for wahoo, and schooling there takes place at certain times of the year. In American waters it is caught in the Gulf of Mexico and in the Gulf Stream from Southern Florida up to Cape Hatteras, North Carolina. Pacific areas which harbor the wahoo are found southward from the southern tip of lower California to Cocos Island (Costa Rica) and Galapagos Island (Ecuador). It is present about the Hawaiian Islands and found from Japan southward to the Philippines and down to Australia.

The wahoo is a streamlined, speedy looking fish with a pointed head, cigar-shaped body, and a small tail less deeply forked than in most other finlet fish. The first dorsal, which has 24 to 26 spines, is elongated and of even height throughout its length, giving it the appearance of an elongated sail. The teeth are triangular in shape and closely set. The fact that teeth are well developed all the way to the angle of the jaw is evidence that the mouth opens frequently to 180°. If this were not so, these teeth would be extinct. It has 9 dorsal finlets and 9 anal finlets. Small scales cover the entire body.

In color the back dorsum of the wahoo may vary —deep blue-black, blue-gray, or a light green and blue. The sides are silvery, sometimes appearing gray with a light spray of bronze, and the belly is white or silvery. Young wahoo have pronounced, dark vertical markings along the sides. Adults show vivid, irregular, dark blue-gray vertical bars (about 25 or 30) when in a state of excitement. After boating a wahoo the rainbow beauty of these bars disappears instantly. Also, the wahoo is covered with a superficial coating of silvery slime; it is scraped off easily when in contact with the wire leader, or when the fish is handled; this material is highly poisonous; the writer bent a wahoo over the bare knee while paralyzing the fish, but in so doing numerous small scales penetrated the skin although no overt laceration of skin occurred. There was severe lymphadenitis (blood poisoning) with 105° fever for two days, after boating this prize winning wahoo in 1960. The upper jaw or snout is unusual and different than most other fish in that it is movable, allowing mouth opening to 180°. When wide open, the upper front jaw structure and end of the snout have a pronounced tip up. Another unusual condition is present in the maxilla (upper jaw); which slides or folds into a type of groove in the side of the upper mouth.

The wahoo has an average size of about 20 pounds. The record rod and reel fish weighed 136 pounds and was taken off East Boynton Inlet, Florida, on April 8, 1955, by R. J. Geyer. When schooling, the size is about 35 pounds, but when encountered in smaller groups, the size is usually larger. One of the smallest specimens known (8 inches) was taken from the stomach of a dolphin. In the Hawaiian Islands specimens over 70 pounds are taken not infrequently.

Identification is easy by: (1) the movable upper snout and (2) the numerous closely set, triangular teeth and (3) the gill cover showing no developed rakers.

Seasonal migrations are indicated by their appearance and disappearance from certain areas, but true lines of migrations are not known. Although it is a year-round fish in Burmuda waters, migrations are suspected by a small run from mid-April through May, and by major abundance during September and October. Along the south Florida and Miami coast they are caught more frequently from early winter through early summer—December through May.

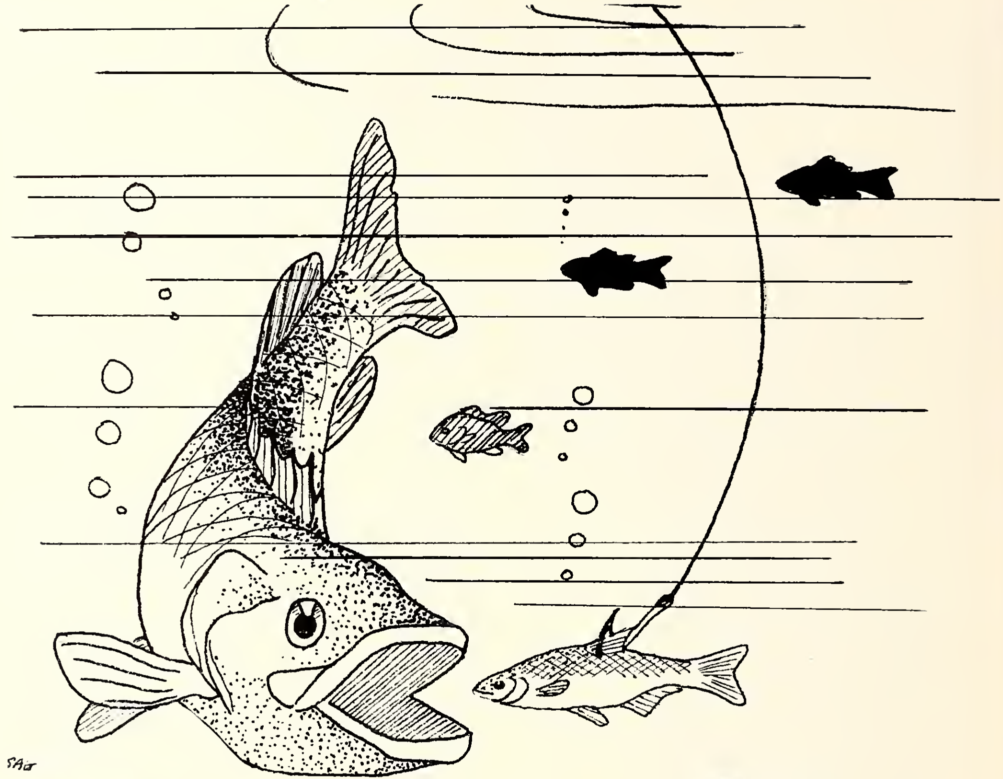
Little is known concerning its spawning activities. In Bermuda waters they spawn between May and July, and off Cuba in June or July. Like all free swimming oceanic fishes the adult wahoo feeds on smaller fishes and squid.

As an item of sea food the wahoo is one of the best. The flesh is firm and pure white when cooked.

Its fighting qualities are well known. It will hit many baits and lures of different sizes and types. Favorites are feathers, strip bait, small whole baits, squid and drone spoons trolled at about 6 or 7 knots of speed. Like king mackerel, it usually strikes at the second half end of the bait. Therefore, one should keep the hook well back when rigging. Wahoos are attracted by shiny metallic objects, such as bright swivels, and have been known to cause loss of billfish by striking the swivel of the taunt line.

Mike Allen, left, is shown with his mother, Billie Jean Allen, holding a fine wahoo that was caught aboard Dr. Lyon K. Loomis' yacht, The Downeaster, in the summer of 1961.

Details on how Dr. Loomis, fishing aboard his private yacht, The Downeaster, boated a wahoo on the first day of the Grand Isle Tarpon Rodeo for three consecutive years, 1959-61 and how he boated a wahoo on the first day of the Empire Southwest Pass Rodeo in 1961 will be revealed in the second part of this article. Dr. Loomis has developed a fondness for fishing wahoo and the next installment of this article will contain tips on where, when and how to fish for wahoo. +



Ednard Waldo

Big Demand For Bait Minnows

IN THE PAST TWO DECADES the annual catch of game fish has increased tremendously, and with the increased catch there has been greater demand for bait minnows.

Because of this and for the reason that minnows are easy to raise, if the proper methods are employed, bait dealers have become increasingly interested in propagating their own minnows.

The propagation of minnows in small artificial ponds, if properly managed, will provide a supply of bait that will justify the cost of pond construction and maintenance.

A good bait minnow must be active and hardy on the hook and be able to stand adverse conditions in the bait pail and holding tank. In selecting species for propagation, one must also consider the facilities at hand and the species and sizes most in demand at the various seasons of the year. A species inhabiting local waters is usually preferred.

For practical purposes minnows may be divided into two groups according to their spawning habits. The pond spawners comprise those species which reproduce freely in small ponds under natural conditions.

The stream spawners include the species that spawn in running waters. Some of the stream spawners permit their eggs to be taken artificially, after which the eggs may be hatched in jars or trays and the fry released into ponds to complete their growth. These species will not spawn in ponds except to a limited degree.

Pond-spawning minnows that are popular for growing for bait purposes include the bluntnosed minnow (*Pimephales notatus*); the black-headed or fat-head minnow (*Pimephales promelas*); and the golden shiner (*Notemigonus erysoleucas*).

In rearing pond-spawners, ponds of almost any size from 1/10 acre to 20 acres may be used. Small ponds of 1/4 to one acre are preferred because they are easily drained and quickly filled; or, if drainage is not possible, they can be seined easily after obstructions have been removed. Large quantities of water flowing through the pond are not necessary; in fact, better results will be obtained with only sufficient water to maintain the surface level without marked fluctuations.

If only one or two ponds are available, it will probably be better to raise only one species of minnow. Because it is difficult for the layman to identify the various species of minnows, it is advisable to obtain brood stock from a reputable dealer.

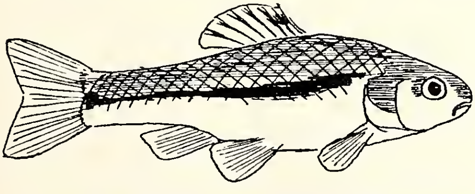
Bluntnose minnows occur naturally in almost every pond, lake or stream throughout their natural range, which includes the Mississippi River Drainage, the Gulf Coast States, the Great Lakes basin and North Atlantic Coastal streams as far south as Virginia.

The mature bluntnose males reach a length of about four inches; the females, three inches. They spawn under logs, stones and other objects at a depth of about 18 inches although they have been observed to spawn in water 2 inches to 8 feet deep. Their propagation is aided by installing in the pond boards, sticks and other objects under which the eggs may be attached. Where vegetation is abundant such aids are not necessary for successful propagation.

The female bluntnose does not spawn until the second summer. They will begin spawning when the water reaches 70 degrees Farenheit and the eggs hatch in 4 to 11 days depending on the water temperature. Their food consists of microscopic plants, crustacea and small aquatic insects.

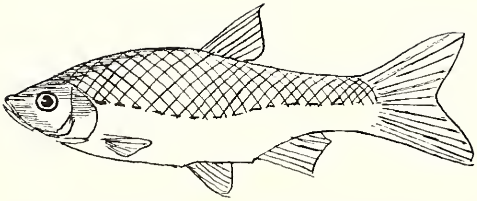
The black-headed or fathead minnows have a wide distribution in the United States east of the Rockies but have not been reported from some of the southwestern states. They are most commonly found in small ponds or sluggish streams. Spawning habits are very similar to those of the bluntnose, minnow.

The young grow rapidly, reaching about 2½ inches in 2 months. The maximum length is about 3 to 4 inches. Many of the early hatched fish apparently reach sexual maturity and spawn before the end of the first summer. Large numbers of the black-headed minnows die after spawning their second or third year. This point should be considered and arrangements made to market the adults at the proper time. Their food is similar to that of the bluntnose.

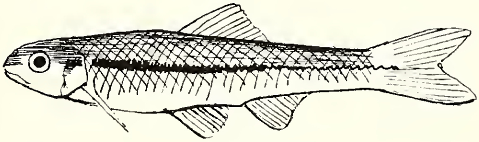


Black-headed or fat-head minnow **(Pimephales promelas)**

The golden shiner is a minnow that has a range over the entire United States east of the rockies. In the colder water of the northern states the golden shiner may reach only three inches during the second summer and five to eight inches in four or five summers, whereas in the southern states it may reach 4 or 5 inches during its first summer. It matures sexually at a length of 2 to 4 inches or at an age of one or two years in the northern states. In the North Central states it has been known to grow to a length of four inches in one summer. Successful propagation depends upon the presence of aquatic vegetation in liberal amounts as the golden shiner spawns over vegetation to which the eggs adhere. This species has been propagated at the rate of more than 100,000 per acre. Its food is similar to that of the bluntnose.



Golden shiner **(Notemigonus crysoleucas)**



Bluntnosed minnow **(Hyborhynchus notatus)**

Other pond-spawning minnows that have been propagated are the redfin shiner (*Notropis umbratilis* whippili), the redbelly dace (*Chrosomus erythrogaster*) and the silvery shiner (*Hybognathus nuchalis*).

The production of minnows in ponds can be increased considerably by the use of fertilizers. Ordinarily any inorganic fertilizer consisting of eight parts nitrogen, eight parts phosphoric acid, and four parts potash is suitable. Any other commercial farm fertilizer is acceptable that contains nitrogen and phosphoric acid, but larger quantities may be necessary.

As vegetation is used by most species as a place to deposit eggs, it should not be exterminated through the addition of too much fertilizer. At the beginning of the season approximately 100 pounds per acre should be used at each application. After turbidity develops so that objects can be seen at not more than about two feet in depth, applications should be made only in sufficient quantity to maintain this amount of turbidity.

After the spawning season is over the turbidity may be increased without affecting reproduction. If the pond becomes dense with submerged aquatic vegetation, more fertilizer should be added to increase turbidity, which will in turn smother and help control the vegetation. The turbidity developed from the use of fertilizers is due to the tremendous numbers of microscopic plants and crustacea, which give the water a brown or green tinge sometimes called "water bloom." +

REPORT on commission action

MEETING OF APRIL 24, 1962

At its regular monthly meeting April 24 held at headquarters in New Orleans, the Commission adopted a resolution that the opening of the shrimp season be postponed from May 1 to May 15 on recommendations of Dr. Lyle St. Amant. Several prominent members of the shrimping industry spoke in behalf of the resolution.

Another resolution was adopted that a bill be prepared and introduced in the coming Legislature giving the commission authority to alter opening and closing dates of the shrimp season to more closely fit the harvest period to the status of shrimp population, which would be determined through research studies by technicians of the Commission, not only for the spring season but also for the fall season as well.

The commission adopted a resolution to recommend to the U. S. Fish and Wildlife Service that seasons and bag limits for ducks and geese in Louisiana during 1962 be made more liberal provided there is a marked improvement in water conditions on the breeding range which lies in the prairie provinces of Canada. However that special regulations be applied, if necessary, to control the kill on endangered and other species as has been done in the past.

That, in addition to the regular daily bag, a bonus of four scaup per day and eight in possession be allowed in that portion of Louisiana that lies south of U. S. Highway 190.

That the daily bag limits and season lengths on blue, snow and white-fronted geese be the same as in 1961 and that the framework on geese be extended to January 15, 1963.

In another action the commission resolved that the request submitted by the U. S. Fish and Wildlife Service for taking of alligators from the Sabine National Wildlife Refuge in Cameron Parish be denied. This was made on the basis that it would create a major enforcement problem and in addition to maintaining a closed season in the Parish, the commission is planning to carry out another restocking program in the marshes of the Parish this summer in order to increase the populations of this valuable form of marsh wildlife.

A resolution was adopted that the low bid of F. Miller and Sons, Inc., of Lake Charles, in the amount of $167,111.15, on a structure to prohibit salt water intrusion into the Rockefeller Refuge and the Mermentau Basin be approved, and that the Director be authorized to negotiate with the Department of Public Works for issuance of a contract.

A report for the records on the Mineral Board Lease Sale for exploration rights at Rockefeller Refuge was submitted by Assistant Director Richard Yancey.

It was also resolved that the action of the Oysters, Water Bottoms and Seafood Division in accepting the low bid of Jahnke Service, Inc., for the planting of shell in Black Bay, (Nigger Lake) to serve as oyster cultch be ratified.

It was also resolved that regulations submitted by the Bienville Parish Police Jury, relative to Kepler Lake Game and Fish Preserve, be approved.

A request from the St. Joseph Sand and Gravel Company, Lake Charles for a permit to dredge sand, gravel and fill material from the Mississippi River be held in abeyance until next meeting.

A motion was adopted, upon the recommendations of Dr. Lyle St. Amant, that Sister Lake is to remain on an experimental basis, opening on alternating years for oyster dredging, so that further biological studies may be made in the lake.

A request of Barksdale Air Force Base for special squirrel and rabbit seasons was deferred for discussion at the Public Hearings on seasons to be held at Alexandria on June 15 and 16, 1962.

MEETING OF MAY 22, 1962

THE REGULAR MONTHLY meeting of the Louisiana Wild Life and Fisheries Commission was held in the New Orleans office on Tuesday, May 22, 1962.

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A group of commercial fishermen presented a petition to the commission asking that they be authorized to use regular gill nets three inches square or six inches stretched in Lac des Allemands for the purpose of taking buffalo and carp from that body of water. Following a general discussion entered into by several signers of the petition and by members of the commission a motion by Commissioner Fleming and duly seconded by Commissioner Fleming that this request be tabled for the next thirty days until further studies can be made by the biologists. The motion carried unanimously.

The commission in other action accorded Carlos Green to succeed Johnny Kelly as a member of the Lake Bistineau State game and fish commission. The appointment followed the recommendation by the Webster Parish Police Jury.

Following John D. Newsom's recommendation the commission gratifed a contract with the University of Georgia to continue Louisiana's cooperation in the Southeastern Cooperative wildlife research unit. This is a cooperative wildlife disease study conducted by University of Georgia technicians to determine the causes of disease outbreaks among game and fur bearing animals in southeastern United States. Louisiana's pro rata share amounted to $3,636.36 which covers the period of July 1, 1962 through June 30, 1962.

Following the reading of a resolution from the Southern Atchafalaya Sportsmen's Club of Morgan City regarding repeal of Louisiana Act 453, commonly termed the dog training law, the following commission resolution was adopted on motion of Commissioner Whatley and seconded by Commissioner Cutrone; Be it resolved that the Louisiana Wild Life and Fisheries Commission go on record as approving, in part, the resolution of the Southern Atchafalaya Sportsmen's Club insofar as controlling to some extent the training of hunting dogs during the closed hunting season.

The commission adopted the following resolution regarding Rockefeller Wildlife Refuge:

WHEREAS, newspaper and other reports indicate a considerable reduction in appropriation request for Rockefeller Refuge, and

WHEREAS, the Act of donation and rules and regulations prescribe certain requirements which must be fulfilled, and

WHEREAS, the original request for funds provides for the development and management as set forth in said act of donation,

NOW, THEREFORE BE IT RESOLVED that this Commission opposes any reduction in the Rockefeller Appropriation request, and respectfully requests favorable consideration of the Governor and the Legislature in this matter.

James N. McConnell, Chief of Oysters, Water Bottoms and Seafoods told the commission that the shrimp harvest appeared to be way up than in 1961 up to the present time and that there were large concentrations in the Barataria and Lafitte areas. He said that shrimp east of the Mississippi are running very small whereas, shrimp west of the Mississippi were much larger.

Following a general discussion a permit was issued to A. Angellette and Sons of Golden Meadow to dredge an area not to exceed a distance of about 190 feet immediately in the front of the property of Mr. A. Danos of Cut Off, Louisiana on Bayou Lafourche approximately 1½ miles south of Cote Blanche. The purpose of this dredging is to prepare a mooring area in front of the property owned by Mr. Danos.

There being no further business to come before the commission on motion of Mr. Whatley, seconded by Mr. Cutrone, meeting was adjourned. ✚

Shortly before his death the late Percy Viosca, Jr., biologist for the Louisiana Wild Life and Fisheries Commission and renowned scientist, compiled several years work on the crawfishes found in Louisiana. This compilation is now in the process of being printed for distribution to interested parties throughout the United States and especially in Louisiana.

The policy of opening Louisiana's seed oyster reservations in alternate years has been very successful the Louisiana Wild Life and Fisheries Commission has found. After the closing of Sister Lake in 1959-60 and the opening of this lake in 1961 the production reached 90,000 barrels from an area of only 600 acres which was available for production.

Louisiana possesses by far the greatest acreage of coastal marshland of any state in the United States. These marshes are dominated by a close growth of wiry sedge grasses and rushes near the coast, where the water is continually salty, and, in addition, with bullrushes and cattails more inland or near the mouths of rivers.

The marshes, together with the lakes and lagoons, are the winter homes of the majority of ducks, geese, snipe and other waterfowl which nest in the United States and Canada east of the Rockies.

The 1960-61 hunting season was the first in Louisiana requiring a separate license for big game. The resident hunting license was increased from $1.00 to $2.00 and the non-resident license was placed on a straight fee basis instead of a reciprocal basis.

Commission Personnel Commended

Field Notes:

(Editor's Note: All too often, activities of the Louisiana Wild Life and Fisheries Commission's wildlife agents are presumed to be merely enforcement of the State's fish and game laws. On many occasions, wildlife agents willingly perform services over and beyond the call of duty. These activities are highly commendable but are rarely made known to the public. Starting with this issue, the *Louisiana Conservationist* will publish notes from the field, focusing attention on the willingness and ability of all Commission Personnel to service the public in times of emergency or distress.)

The following letter was received by Director L. D. Young from Ed Sweeney, Aled's Resort, Ventress, La.:

"Yesterday if it had not been for your Vincent Pupera, Jr., and Mr. James Spruill, two of our guests would have drowned in False River—just in front of our resort. It was their quick action that saved these two young men. . . .

"Again, I want to say you have two very fine men in Purpera and Spruill. These men saved the day for us."

* * * * * * * *

Another letter from Paul C. R. Rose, Jr., New Orleans, read in part:

"While fishing out of Hopedale today on the rocks at the end of the ship canal my companion 'Sonny' Hidalgo ran a fish hook into his finger in such a manner that we rushed him over to one of your patrol boats manned by Samuel J. Nunez and Emile Perez.

"These two men immediately took 'Sonny' aboard their safety patrol boat, rushed him back to Hopedale, then to the clinic at St. Bernard. These men are not only a credit to your department, but are a credit to all who hunt and fish. They very humbly stated that they were merely performing their duty and since we the public paid the taxes it was the least they could do to render service.

"Please again convey to these two excellent men our heartfelt thanks and please see that they receive their more than well 'deserved pat on the back'.

"They are an outstanding credit to your department and to the State of Louisiana. Many thanks for such wonderful cooperation."

* * * * * *

Field Supervisor Billy K. James, Enforcement Motorboat Patrol received the following report from wildlife agents of his section:

"Virgil Jarreau was paddling across False River. A strong wind came up. He was having trouble paddling his boat. We picked him up and towed him across the river . . . .

"Judge DeJean, City Judge of Opelousas, was in Bayou Courtableau. His motor broke down. We towed him about eight miles. . . .

"Malcolm Broussard, age 20, and Weldon Harris, age 12 were riding in a bateau. They started to turn, the handle came off the motor, and the boat spun around and flipped over. Broussard was trying to hold the younger boy up. We were passing and picked them up. . . . .

"Johnny Cathel was out of gas. We gave him enough to get back to the dock. . . . .

"Ted K. Kaleniki's motor would not start. We towed him in. . . . .

"John Cox, Jr., age 15, and James Moody, age 13, had on life jackets and swam to a pier after their boat capsized. We helped them get their boat up, then towed the boat and took the boys back to their camp. . . ."

* * * * * * * * * * *

The following is a memo to all division chiefs from Director L. D. Young, Jr.:

"I wish to compliment all of our people for their alertness, tireless and unceasing efforts last weekend in assisting in evacuation of persons in the flooded areas north of Baton Rouge and aiding in the removal of their belongings.

"As early as day break Saturday many of our people were already in the trouble areas and constant radio communication was maintained throughout the danger period.

"One of our planes was made available to sheriff offices of West and East Baton Rouge Parishes and Civil Defense, and Sheriff Bergeron of West Baton Rouge and Captain Thompson of East Baton Rouge were able to better coordinate rescue efforts following observation flights.

"We would not want to single persons out by name for fear that we might overlook someone, but this commendation applies to all who had a part."

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The following is a letter from Mr. and Mrs. Claude Morris and Family addressed to Rudolph P. Easterly, Chief of Enforcement. It reads in part:

"We wish to take this opportunity to commend your Department for their efficiency and devotion in the recent search for the body of our loved one, Joe E. Walker.

"Captain Leonard New and his crew proved to be our pillars of strength during the search. The endless hours we spent were made a little easier knowing they were making every effort possible to find Joe.

"Their untiring efforts and loyalty devoted to the task has deepened our respect and admiration for your department.

"Tactics such as these shall make each of you individually a success both in your department and in your personal life.

"Please accept our gratitude." ✢

The Bird of the month

PURPLE GALLINULE

Porphyrula martinica

Charles R. Shaw

THERE ARE SEVERAL game birds in Louisiana which, although there is an open season on them each year, are virtually unknown to the majority of the residents of the state. The Purple Gallinule, or "blue peter" as it is known in some areas of the state, is undoubtedly the most colorful of this group. Along with the Common Gallinule, (which is sometimes called the "Florida" Gallinule) and the coot, this bird belongs to the rail family.

Four more members, the King, Clapper, Virginia and Sora Rails are also considered game birds although not yet appreciated to any great extent by our local sportsmen.

The description of the Purple Gallinule sounds a little like a job of coloring done by a youngster with his first box of paints. The basic rich purplish blue covers the head and underparts, and the back and wings are olive-green. The tip of the bill is yellow but the rest of it is a deep red. Just over the beak is the blue shield formed by the bare blue skin of the featherless forehead of the bird. The feet and legs are yellow. The feathers under the tail are white and show as a conspicuous flash of color as the bird jerks its tail forward over its back at each step. The feet are large in proportion to the size of the bird and the long slender toes enable it to walk easily on lily pads and similar floating vegetations in its favorite habitat of marsh, bayou, ponds, rice fields, lake shores, etc.

The Purple Gallinules are summer residents and generally are all gone by the end of October, which explains the necessity for the very early hunting season on them. Along with many other species of birds they winter in tropical areas, presumably crossing the Gulf of Mexico.

Spring migration into Louisiana begins in late March or early April and the birds scatter out looking for likely nesting areas. The most commonly found nests are in the rice fields of south Louisiana where they cause considerable annoyance to the farmers by tangling up a lot of rice stalks and constructing the nests in such manner that they often clog the rice harvesting machines. This factor is probably the most damaging habit which they exhibit.

The six or eight buff colored eggs are covered with small brownish spots and surprisingly enough hatch out into jet black downy young. The latter are able to fend for themselves about as well as baby chickens and are looked after by their mother in much the same manner.

The rice harvest may also include a gallinule harvest on occasion because the machines may work around the edges of a field and keep working toward the center, thereby concentrating the birds. When the cover is finally about gone the gallinules are forced to fly and thus expose themselves to the waiting gunners. The sport, and food, thus obtained might be said to compensate at least in some measure for any damage caused by the birds. ✠

THE FRESHWATER FAVORITE

Black Bass

Probably the most sought after of all freshwater game fish is the black bass. It is found in abundance in most of the United States and in Canada. A fine fighting fish, it puts on a dogged fight when hooked. It is known for its tail-walking, jumping fight; and the savage fury demonstrated when it strikes a surface lure has earned the admiration and respect of anglers everywhere. Bass are found in nearly all bodies of freshwater, basic reason why it is a favorite.